

**REMARKS:**

With regard to the non-statutory double patenting rejection, a terminal disclaimer is submitted herewith signed by the Agent of Record so that this rejection is now moot. The Commissioner of Patents is hereby authorized to charge the fee of \$130 for this Terminal Disclaimer to our Deposit Account No: 01-0310. A duplicate copy of this sheet is enclosed.

With regard to the rejection under 35 U.S.C.102(e), it is respectfully pointed out that the present application is claims the benefit of the priority date of June 14<sup>th</sup> 2001 from Provisional Application 60/325,785 which is earlier than the filing date of December 11<sup>th</sup> 2001 of Patent 6,881,288 and Patent 6,872,273 cited by the Examiner.

As set forth in MPEP at 706.02(b) there is stated that a rejection based on 35 U.S.C.102(e) can be overcome by:

*(F) Perfecting priority under 35 U.S.C. 119(e) ...and establishing that the prior application (which is in this case 60/25,785) satisfies the enablement and written description requirements of 35 U.S.C.112.*

In regard to **Claim 1 herein**, the Examiner will appreciate that the claim has two key points and the remaining parts of the claim are concerned with establishing the context of the claim which is directed generally to pultruded parts reinforced by separate layers of material which are known.

The key parts are:

Firstly that the resin is a urethane resin. This is disclosed in the Provisional application above at pages 9 and 10 which describe in detail the resin material.

Secondly that the "the or each second layer of fibers having a total quantity of fibers in the or each second layer which is of the order of or less than 0.5 ounces per square foot". This is clearly disclosed at page 6 line 8 and also at page 13 lines 12 to 22.

In regard to Claim 11 herein, the Examiner will appreciate that the claim has a number of key points and the remaining parts of the claim are concerned with establishing the context of the claim which is directed generally to pultruded parts reinforced by separate layers of material which are known.

The key parts are:

Firstly that the part formed is hollow so as to define a wall wholly surrounding a hollow interior. This is clearly disclosed in Figure 7 and in the related description in the middle of page 16 where it clearly refers to hollow structures and the inside surface.

Secondly that the reinforcement consists of only two layers including a "mat" layer on the inside and a longitudinal roving layer on the outside." This is clearly disclosed in Figure 7 and is described in detail from page 16, line 1 to page 17, line 2.

Thirdly that the resin is cross-linked. This is disclosed in the provisional application for example at page 5, line 10.

It is clearly established therefore that the provisional application from which this application claims priority, as set forth on page 1 of the application and in the declaration and in the filing certificate, describes the features set forth in Claims 1 and 11 which are in question herein.

Furthermore it is pointed out to the Examiner that the subject matter herein is the work of inventor Davies who is the same inventor Davies set forth in the cited patents. The subject matter concerned is NOT disclosed in the prior applications referred to the cited patents because it had not been invented when the applications were filed.

It is submitted therefore that the rejections under 35 U.S.C.102(e) are not proper and should be withdrawn.

With regard to the rejection under 35 U.S.C.103 based on WO 00/78529 it is noted that this reference was published on December 28<sup>th</sup> 2000 and hence it was not published more than one year prior to the filing date of the Provisional application identified above filed on June 14<sup>th</sup> 2001 and hence it cannot be cited under 35 U.S.C.102(b) and hence it cannot be used in a rejection under 35 U.S.C.103. Further it will be noted that the US patents which correspond to the WO 529 are those of Davies cited above which are also not prior art under 35 U.S.C.102.

As set forth above, none of the Davies references will disclose the subject matter of the claims herein since that subject matter was not invented until a date close to the filing of the present provisional application in June 2001.

The only reference properly citable under 35 U.S.C.102 is that of Kaiser. However Kaiser does not disclose the features of Claim 1 above concerning the amount of fibers in the layer and the Examiner does not allege that it does so disclose this feature. Instead the Examiner refers to In re Boesch and suggests that the amount of fibers is merely a matter of optimizing.

The total quantity of the fibers in the second layer is stated to be "of the order of or less than 0.5 ounces per square foot".

It is submitted that the combination of the selection of a specified range of weight of reinforcement layer (as defined in the claim) with the type of resin defined in the claim (which stated to be a urethane resin) distinguishes the claim from the prior art under 35 U.S.C. 103.

The Examiner will note that on page 3, line 22 to page 4, line 13 of the specification as filed is a discussion of the weight of mats and their uses. It will be noted that in general the indication of the type of weight of mat used for structural or strength purposes is greater than 0.5 ounces (150 g/m<sup>2</sup>).

The question is therefore whether it is obvious to use, with the type of resin as defined in Claim 1 that is "a urethane resin", a reinforcement layer which has the weight specified in Claim 1 which is of the order of or less than 0.5 ounces per square foot.

In the specification as filed, the invention proposes the use of very thin lightweight material or veils. The dividing line between veils, which are not intended to provide structural strength to the part but are intended conventionally to provide

covering layers at the surface for appearance reasons and mats, which are used for structural strength purposes, occurs at the level 0.5. Thus mats having a weight *"greater than 0.5 ounces per square foot and generally 0.75 to 1.0 ounces per square foot"* are intended for structural purposes and veils having a weight equal to or less than 0.5 are intended for appearance reasons.

It is further submitted that the present invention is not merely a matter of optimizing a range but that the invention is based upon the concept that the present inventor has moved away from conventional thinking and conventional use of mats for the transverse reinforcement and has instead used, for the specific urethane resin type now defined, an entirely different class of material, that is "veil" (as defined by its weight) which has not previously been used for structural strength.

This invention is surprising in that it would normally be considered that the necessary additional strength would be provided by an increase in the thickness of the mat or reinforcing fibers whereas, in the present invention to the contrary, the increased strength is provided by utilizing, in combination with the urethane resin type, a thinner material.

The explanation for this surprising result is understood to be that the cross linking effect of the urethane set forth in Claim 1 is degraded if the thickness of the reinforcing fibers is greater than 0.5 ounces per sq ft.

The Examiner will appreciate that the resin set forth in Claim 1, which is a non-linear resin, is of a type different from that conventionally used and primarily used in which is polyester. The prior art mentions that other resins may be used, including

urethane resins. However the prior art of Kaiser does not appreciate nor mention any distinction between the effects of polyester and urethane types of resin.

Reinforcing layers of the type defined in Claim 1 cannot be use with polyester as a resin since such the parts so manufactured will be unsatisfactory. Such layers can ONLY be used as veils for appearance reasons and provide no or insufficient structural effects.

In the present invention as defined in Claim 1, therefore, the present inventor has moved away from the use of the conventional polyester resin to a urethane resin and this has been found to co-operate with the use of an unexpectedly thin or lightweight layer of the transverse reinforcement fibers to provide an unexpected improved effect.

The key point in regard to patentability of this claim under 35 U.S.C.103 is that the present inventors have realized that the cross-linking effect obtained with the type of resin now defined requires the use of a thinner (or lighter) reinforcing layer for structural reinforcement, rather than the conventional thicker layers (greater than 0.5). It is submitted therefore that, in order to establish a prima facie case as required under the statute and set out clearly in MPEP, it is necessary for the Examiner to cite a combination of prior art documents which establish that this combination is obvious. The prior art of Kaiser makes no disclosures concerning this combination or features. The reference does NOT disclose that cross-linked resins require a lighter layer.

It is further submitted that, in order to establish a prima facie case, the Examiner must show more than the existence of the resin as defined and in a separate

document the existence of the reinforcing layer as defined, but that the Examiner must establish that there is some motivation in the prior art documents to provide this specific combination. The Examiner has failed to establish such a prima facie case and the documents cited do not establish such a case.

It is submitted therefore that Claim 1 is clearly distinguished from the prior art for the above reasons and should therefore be allowed.

**Claim 11** does not include the above mentioned limitations to the quantity of fibers but instead is directed to an alternative aspect of the invention which is the location, in association with the use of a cross-linked resin, of the second layer of fibers (including transverse fiber portions) which is placed on the inside surface or second surface of the hollow shape.

Kaiser does not disclose a hollow shape but instead has a core and an outer layer. Kaiser is simply not relevant therefore to this aspect of the invention

Thus Claim 11 sets forth that there are ONLY two layers of fibers (within the cross-linked resin material) where the second layer is located at the interior or second surface of the hollow profile so that the first layer is spaced wholly away from the second interior surface and the second layer contains the fibers with transverse portions.

This invention, as defined in Claim 11, is based upon the concept that the use of the non-linear resin material allows the reinforcement by a single layer of fibers with transverse portions and that the single layer of fibers is best located in a hollow shape by providing the fibers with transverse portions wholly at the interior (or second) surface.

14

Thus the feature that is NOT shown in the prior art is the feature that the second layer of fibers is located at the interior surface of the hollow.

The Examiner makes no mention of this feature in any of the rejections and has cited no prior art disclosing this feature.

It is submitted therefore that this feature clearly distinguishes Claim 11 from the prior art as cited by the Examiner and therefore Claim 11 should be allowed.

Respectfully submitted

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Enc.(4)

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CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that this paper is being facsimile transmitted to the United States Patent and Trademark Office, Fax No. (571) 273-8300, on February 6, 2006

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